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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,162	01/05/2006	Naotaka Kubota	SHIGA12.001APC	1428

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EXAMINER	
WALKE, AMANDA C	

ART UNIT	PAPER NUMBER
1752	

NOTIFICATION DATE	DELIVERY MODE
06/21/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/537,162	KUBOTA ET AL.	
	Examiner	Art Unit	
	Amanda C. Walke	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabe et al (6,806,022 or 6,846,610) in view of Kawakami et al (2002/0184788).

Kawabe et al disclose a method of forming a pattern employing a positive photosensitive resin composition comprising (A) a polymer which has alicyclic hydrocarbon skeletons and composes under the action of an acid to be rendered soluble in alkali, (B) a compound which generates an acid upon irradiation with actinic rays, (C) a nitrogen-containing basic compound, (D) at least one of a fluorine-containing surfactant and a silicon-containing surfactant and (E) a solvent. The composition can exhibit better characteristics when the solvent (E) is a combination of specified solvents. More specifically, the following (1) to (8) are embodiments of the present first composition, and thereby the aforementioned objects are attained. (1) A positive photosensitive resin composition comprising: (A) a polymer which has alicyclic hydrocarbon skeletons and decomposes under the action of an acid to be rendered soluble in alkali, (B) a compound which generates an acid upon irradiation with actinic rays, (C) a nitrogen-containing basic compound, and (D) at least one of a fluorine-containing surfactant and a silicon-containing surfactant. (2) A positive photosensitive resin composition comprising: (A) a polymer which has bridged alicyclic hydrocarbon skeletons and decomposes under the action of an acid to be

rendered soluble in alkali, (B) a compound which generates an acid upon irradiation with actinic rays, (C) a nitrogen-containing basic compound, (D) at least one of a fluorine-containing surfactant and a silicon-containing surfactant, and (E) a solvent. The resins are employed in a method comprising the steps of: coating the resin on a substrate by means of an appropriate coating apparatus, such as a spinner or a coater, performing a pre-bake (heating prior to exposure), exposing to light of wavelengths of no longer than 220 nm via the desired mask, performing a PEB (post-exposure bake), developing to provide a resist pattern, rinsing and drying. For radiation exposure of resist films after pre-bake, commercially available ultraviolet exposure apparatus, X-ray exposure apparatus, electron-beam exposure apparatus, KrF excimer exposure apparatus, ArF excimer exposure apparatus, F.sub.2 excimer exposure apparatus and so on can be employed. In particular, the exposure apparatus using ArF excimer laser as light source is advantageous to the present invention. While the references teach that a drying step is performed, no details are provided.

Kawakami et al disclose a conventional and advantageous method of treating and drying a photoresist pattern post-development and rinsing. As taught by the reference and demomnstrated in the examples, after pure water rinsing, a fluorinated alcohol fluid is substituted for the water then treated with supercritical CO2.Claims 1 and 2 of the reference teach that an additional step employing a fluorinated alcohol and a surfactant is performed prior to the CO2 treatment as described by the instant claim 5.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare a pattern employing the method and material of either Kawabe et al reference choosing to employ the drying method of Kawakami et al.

Regarding claims 9 and 10, the resultant structure of the references appears to meet these limitations. These claims are product by process claims. From the MPEP:

M.P.E.P. § 2113:

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985)... "The Patent Office bears a lesser burden proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessman, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 218 USPQ 289, 292 (Fed. Cir. 1983).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amanda C Walke
Primary Examiner
Art Unit 1752

ACW
June 15, 2007